

WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:

a controller for determining whether or not  
document data given have a capacity larger than a first  
predetermined value;

a first code pattern creating portion for creating  
code patterns by encoding the document data, if the  
controller determines that the document data have a  
greater capacity than the first predetermined value;

a reducing portion for reducing the document data  
by a second predetermined value, if the controller  
determines that the document data have a greater  
capacity than the first predetermined value;

a second code pattern creating portion for  
encoding the document data reduced by the reducing  
portion to create code patterns; and

a print function for forming images on a recording  
medium based on the code patterns created by at least  
one of the first code pattern creating portion and the  
second code pattern creating portion.

2. An image forming apparatus according to  
claim 1, wherein the print function includes

a function for forming images on the front side of  
a recording medium based on the document data, and  
forming the code patterns created by at least one of  
the first code pattern creating portion and the second  
code pattern creating portion.

3. An image forming apparatus according to claim 1, wherein the controller includes

control function for determining whether or not the document data have a capacity larger than the first predetermined value after an image developing portion has created print images based on the document data and a print engine has printed the print image on the front side of the recording medium.

4. An image forming apparatus according to claim 1, further comprising:

a scanner for reading the code patterns on the recording medium formed by the print function;

a creating portion for recognizing the code patterns read by the scanner, and creating temporary document data based on the code patterns;

a controller for determining whether or not there exist data deleted by the reducing portion based on the code patterns recognized by the creating portion;

a controller for determining the temporary document data as final document data, if the controller determines that no data has been deleted from the code patterns; and

a supplementing portion for acquiring predetermined data from data other than the code patterns and incorporating the predetermined data into the temporary document data created by the creating portion, if the controller determines that the predetermined data have

been deleted from the code patterns to restore the final document data.

5. An image forming apparatus according to claim 4, wherein the scanner includes

5 function for reading the code patterns formed on the back of the recording medium.

6. An image forming apparatus according to claim 4, wherein the supplementing portion includes

function for restoring the final document data by incorporating predetermined data restored by reading images formed on the front side of the recording through the print function into the temporary document data created by the creating portion.

7. An image forming apparatus comprising:

15 a scanner for reading code patterns on a recording medium;

a creating portion for recognizing the code patterns read by the scanner and creating temporary document data based the code patterns;

20 a controller for determining whether or not predetermined image data have been deleted based on the code patterns recognized by the creating portion;

a controller for determining the temporary document data created by the creating portion as final document data, if the controller determines that no data have been deleted from the code patterns; and

a supplementing portion for restoring

predetermined data from data other than the code patterns and incorporating the restored predetermined data into the temporary document data created by the creating portion to restore the final document data, if  
5 the controller determines that the predetermined data have been deleted from the code patterns.

8. An image forming method comprising:

) a step of determining, by a controller, whether or not document data given have a capacity greater than a  
10 first predetermined value;

a step of encoding the document data as it is to create code patterns by a code pattern creating portion, if the controller determines that the document data have a capacity not exceeding the first predetermined  
15 value;

) a step of reducing the document data by a second predetermined value by a reducing portion, if the controller determines the document data have a capacity greater than the first predetermined value;

20 a step of encoding the document data reduced by the reducing portion, by a code pattern creating portion to create code patterns; and

an image forming step of forming images by a print function on a recording medium based on the document  
25 data and the code patterns created in the code pattern creating portion.

9. An image forming method according to claim 8,

wherein the image forming step includes

a step of forming images on the front side of the recording medium based on the document data, and forming the code patterns created in the code pattern creating portion on the back of the recording medium.

10. An image forming method according to claim 8, wherein the determining step includes

) a step of creating images in an image developing portion based on the document data, printing the print images on the front side of the recording medium by the print function, and determining by a controller whether or not the document data have a capacity greater than the first predetermined value.

11. An image forming method according to claim 8, further comprising:

) a reading step of reading the code patterns, by the scanner, formed on the recording medium by a print function;

a step of recognizing the code patterns read by the scanner and creating temporary document data based thereon by an electronic document creating portion;

a step of determining by the controller whether or not there exist data that have been deleted by the reducing portion based on the code patterns recognized by the creating portion;

a step of determining the temporary document data created by the creating portion as final document data,

if the controller determines that no data have been deleted from the code patterns; and

5 a restoring step of restoring predetermined data by a supplementing portion from data other than the code patterns and incorporating the thus restored predetermined data into the temporary document data created by the creating portion to restore the final document data, if the controller determines that the predetermined data have been deleted from the code  
10 patterns in the reducing portion.

12. An image forming method according to claim 11, wherein the reading step includes

15 a step of reading the code patterns, by the scanner, formed on the back of the recording medium by the print function.

13. An image forming apparatus according to claim 11, wherein the restoring step includes

20 a step of incorporating predetermined data restored by the supplementing portion, by means of reading the images formed on the front side of the recording medium by the scanner formed by the print function, into the temporary document data, so as to restore the final document data, if the controller determines that the predetermined data have been  
25 deleted from the code patterns by the reducing portion.

14. An image forming apparatus comprising:

a step of reading code patterns on a recording

medium by a scanner;

a step of recognizing the code patterns read by the scanner and creating temporary document data by a creating portion based thereon;

5 a step of determining by a controller whether or not predetermined image data have been deleted based on the code patterns;

) a step of determining the temporary document data created by the creating portion as final document data,  
10 if the controller determines that that no data have been deleted from the code patterns by a reducing portion; and

a step of restoring predetermined data from data other than the code patterns and incorporating the thus  
15 restored data into the temporary document data created by the creating portion to restore the final document data by the supplementing portion, if the controller determines the predetermined data have been reduced from the code patterns.

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